

NATURAL RESOURCES CONSERVATION SERVICE CONSERVATION PRACTICE STANDARD

HILLSIDE DITCH

(Ft.)
CODE 423

DEFINITION

A channel that has a supporting ridge on the lower side constructed across the slope at definite vertical intervals and gradient, with or without a vegetative barrier.

SCOPE

This standard applies to the planning and design of hillside ditches on steep land. It does not apply to diversions (362) or terraces (600).

PURPOSE

To control the flow of water in sloping areas by diverting runoff to protect outlet, thus minimizing erosion and runoff.

CONDITIONS WHERE PRACTICE APPLIES

Areas that have sufficient soil depth for constructing a hillside ditch system.

DESIGN CRITERIA

Location. Hillside ditch systems shall be designed to fit land conditions. They shall drain from the ridge to a stable outlet.

Outlets. Adequate outlets shall be provided before beginning construction to dispose of discharge without creating an erosion hazard. Such outlets may be a natural waterway or a constructed one, a stable watercourse, or stable disposal areas, such as well-established pasture.

Length. Maximum length draining in one direction shall be 400 ft. This length may be extended to 500 ft if necessary to reach a stable outlet.

Grade. The ditch grade may be either constant or variable but must not exceed 3 percent.

Side slopes. Side slopes shall be stable for the soil in which the ditch is constructed.

Horizontal spacing and cross-sectional area. The maximum horizontal spacing and minimum cross-sectional area per 100 ft of ditch shall be as follows:

| Average slope | Maximum spacing | Minimum cross-sectional area per 100-ft length |
|---------------|-----------------|--|
| <i>pct</i> | <i>ft</i> | <i>ft²</i> |
| 12 or less | 40 | 0.35 |
| 12-25 | 35 | .3 |
| 25-40 | 25 | .2 |

PLANS AND SPECIFICATIONS

Plans and specifications for constructing hillside ditches shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose.

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| Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resource Conservation Service. |
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PLANNING CONSIDERATIONS FOR WATER QUANTITY AND QUALITY

Quantity

1. Effects upon components of the water budget, especially effects on volumes and rates of runoff, infiltration, evaporation, transpiration, deep percolation, and ground water recharge.
2. Effects of snowcatch and melt on water budget components.

Quality

1. Filtering effects of vegetation on movement of sediment and dissolved and sediment-attached substances.
2. Effects on erosion and the movement of sediment, pathogens, and soluble and sediment-attached substances by runoff.
3. Effects on the visual quality of the water resources.
4. Short-term and construction-related effects of this practice on the quality of downstream water.
5. Potential for development of saline seeps or other salinity problems resulting from increased infiltration in the presence of restrictive layers.